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Medicinal Natural Products

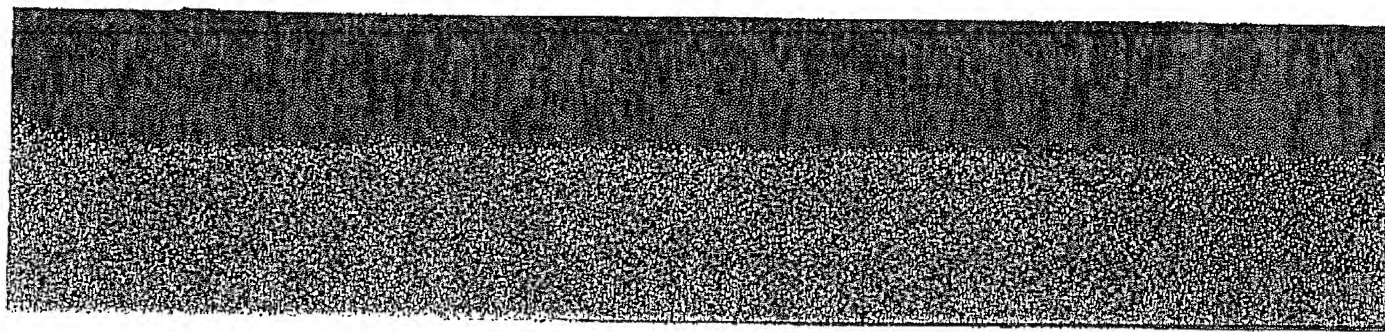
A Biosynthetic Approach

Second Edition

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Table 5.1 Volatile oils containing principally terpenoid compounds

Major volatile oils have been divided into two groups. Those oils containing principally chemicals which are terpenoid in nature and which are derived by the deoxyxylulose phosphate pathway are given in Table 5.1 below. Oils which are composed predominantly of aromatic compounds which are derived via the shikimate pathway are listed in Table 4.1 on page 139. The introductory remarks to Table 4.1 are also applicable to Table 5.1.

Oils	Plant source	Plant part used	Oil content (%)	Major constituents with typical (%) composition	Uses, notes
Bergamot	<i>Citrus aurantium</i> ssp. <i>bergamia</i> (Rutaceae)	fresh fruit peel (expression)	0.5	limonene (42) linalyl acetate (27) γ-terpinene (3) linalool (7)	flavouring, aromatherapy, perfumery also contains the furocoumarin bergapten (up to 5%) and may cause severe photosensitization (see page 146) soaps
Camphor oil	<i>Cinnamomum camphora</i> (Lauraceae)	wood	1-3	camphor (27-45) cinole (4-21) safrone (1-18)	
Caraway	<i>Carum carvi</i> (Umbelliferae/Apiaceae)	ripe fruit	3-7	(-)-carvone (50-70) limonene (47)	flavour, carminative, aromatherapy
Cardamom	<i>Elettaria cardamomum</i> (Zingiberaceae)	ripe fruit	3-7	α-terpinyl acetate (25-35) cinole (25-45) linalool (5)	flavour, carminative, ingredient of curries, pickles

(Continued overleaf)

Orange flower (Neroli)	<i>Citrus aurantium</i> ssp. <i>amara</i> (Rutaceae)	fresh flowers	0.1	linalool (36) β -pinene (16) limonene (12) linalyl acetate (6) menthol (30-50) menthoat (15-32) menthyl acetate (2-10), menthofuran (1-9) α -terpineol (65)	flavour, perfumery, aromatherapy
Peppermint	<i>Mentha x piperita</i> (Labiatae/Lamiaceae)	fresh leaf	1-5		flavouring, carminative, aromatherapy
Pine	<i>Pinus palustris</i> or other <i>Pinus</i> species (Pinaceae)	needles, twigs			antiseptic, disinfectant, aromatherapy
Pumilio pine	<i>Pinus nugo</i> ssp. <i>pumilio</i> (Pinaceae)	needles	0.3-0.4	α - and β -phellandrene (60) α - and β -pinene (10-20) bornyl acetate (3-10)	inhalant the minor components bornyl acetate and borneol are mainly responsible for the aroma

(Continued overleaf)